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Lecanora gansuensis sp. nov. (*subfusca* group) from China

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Abstract — *Lecanora gansuensis* is described as new to science from China and South Korea. It is characterized by flexuous apothecial margins and the presence of stictic acid, norstictic acid, and connorstictic acid in addition to atranorin.

Key words — East Asia, fungi, lichen, stictic acid complex, taxonomy

Introduction

The large genus *Lecanora* Ach. has been divided into several groups. The *subfusca* group is characterized by having atranorin, calcium oxalate crystals in the apothecial margin, and (usually) reddish brown apothecia (Brodo 1984). The *subfusca* group has received considerable interest during recent decades (e.g., Brodo 1984, Miyawaki 1988, Brodo et al. 1994, Upreti 1998, Guderley 1999, Lumbsch et al. 2004, Ryan et al. 2004). A further study of *Lecanora* specimens collected from China revealed a new species belonging to the *subfusca* group, which is described here.

Materials & methods

The specimens studied are housed in SDNU (Lichen Section of Botanical Herbarium, Shandong Normal University) or KoLRI (Korean Lichen Research Institute). Thalli were examined and measured under a stereo-microscope (COIC XTL7045B2) and apothecial anatomy was observed under a polarizing microscope (Olympus CX41-32). Photos of the thalli were taken with an Olympus SZX12 with DP70. Chemical analysis using spot tests and thin layer chromatography followed standard methods (Orange et al. 2010), mainly using solvent system C.

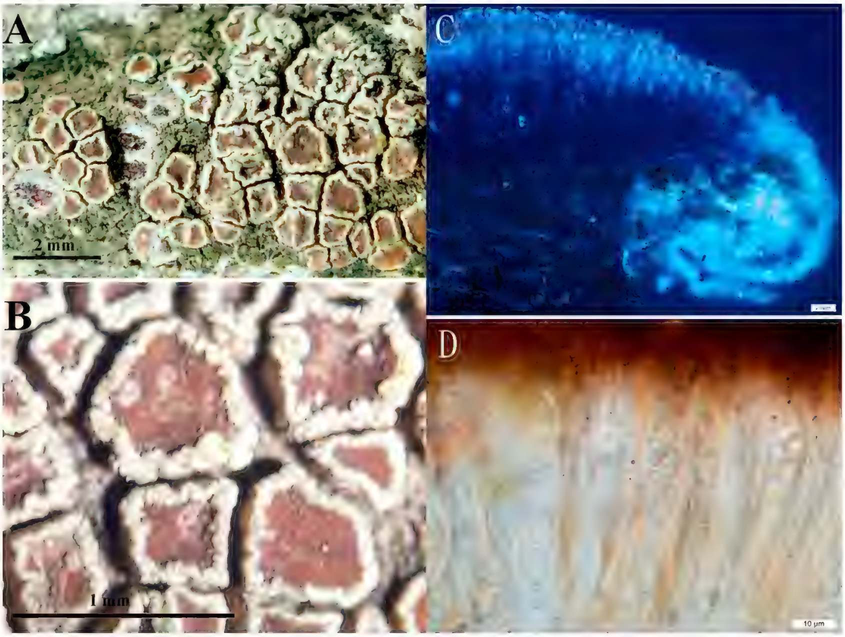

Plate 1. *Lecanora gansuensis* (holotype). A. Crowded apothecia; B. Flexuous apothecial margins; C. Granules in amphithecium and epihymenium; D. Ascospores.

Taxonomy

Lecanora gansuensis L. Lü & H.Y. Wang, **sp. nov.** Plate 1

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Differs from *Lecanora kansriae* by its crowded flexuous apothecia and smaller spores.

Type: China, Gansu, Wen County, Qiujiaba, 2300 m, on twigs, 3 Aug 2006, Yang et al. 061482-2 (sdnu **holotype**).

Etymology: the epithet refers to the holotype locality, Gansu.

Thallus dark brown, well-developed, continuous or rimose-areolate, margin definite, prothallus absent. Apothecia sessile, crowded, 0.5–1.0 mm in diam., discs red brown, epruinose, margins gray-white, prominent, entire, thick, strongly flexuous. Cortex is distinct, thin, gelatinous, uniform below (15–23 µm). Amphithecium containing small crystals (*campestris*-type) insoluble in KOH. Epihymenium yellowish brown, with fine granules (*pulicaris*-type), 12.5–15 µm tall. Hymenium hyaline, 50–60 µm tall, paraphyses simple, to be slightly branched at the tip, neither thickened apically nor pigmented. Hypothecium hyaline, 45–55 µm thick. Asci clavate, 8-spored. Ascospores simple, hyaline, ellipsoid, 8.5–10 × 5–5.5 µm.

Chemistry — atranorin (major), stictic acid (major), norstictic acid (minor), and connorstictic acid (minor).

ADDITIONAL SPECIMENS EXAMINED: **CHINA. GANSU**: Wen County, Qiujiaba, 2350 m, on bark, 3 Aug. 2006, Yang et al., 061643; 2600 m, Yang et al., 062075–2. **GUIZHOU**: Kaili City, Mt. Leigong, 1700m, on bark, 23 Aug. 2010, Wang 20103351; Libo County, Maolan Nature Reserve, 350m, on bark, 2 Nov. 2009, Wang 20102329 (SDNU). **SOUTH KOREA. JEOLLANAM-DO**: Gurye-gun, Sandong-myeon, Mt. Jiri, 1085 m, on bark, 16 Jun. 2006, Hur 060165–3 (KoLRI).

DISTRIBUTION AND SUBSTRATE — At present, *L. gansuensis* is known from China (Gansu and Guizhou) and South Korea on bark or wood.

COMMENTS — Few species of *Lecanora* have a *pulicaris*-type epihymenium with a *campestris*-type amphithecium, and even fewer contain stictic acid as a main lichen product. *Lecanora kansriae* described from Thailand agrees in all these respects but has much larger spores (17–20 × 10–12 µm) and does not have crowded apothecia with flexuous margins (Papong & Lumbsch 2011). *Lecanora gansuensis* morphologically resembles *L. allophana* (Ach.) Ach. and *L. imshaugii* Brodo. However, *L. allophana* has a *glabrata*-type epihymenium and different substances (atranorin alone), while *L. imshaugii* differs in chemistry, producing atranorin and zeorin as major substances (Brodo 1984).

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